Appendix III−13 A

Figure 1 Outside Piers Jersey Barrier Details

Figure 2 Jersey Barrier Details−Bar Lists and Bent Bar Details−Outside Piers

Figure 3 Terminal Impact Attenuator Layout

Figure 4 Impact Attenuator Details−Median Pier Protection

Figure 5 Median Pier Transition Wall Detail

Figure 6 Median Pier Transition Wall−Reinforcing Steel Layout

Figure 7 Median Pier Transition Wall−Bent Bar Details and Bar List

Figure 8 Jersey Barrier and Attenuation−Crash Cushion Layout

Figure 9 Jersey Barrier Layout

Figure 10 Jersey Barrier Details−Reinforcing Steel Layout

Figure 11 Jersey Barrier Details−Bent Bar −Bar List

Figure 12 Jersey Barrier and Attenuation Device Layout

Figure 13 Jersey Barrier Details−Median Pier Protection

Figure 14 Jersey Barrier Details−Reinforcing Steel Layout

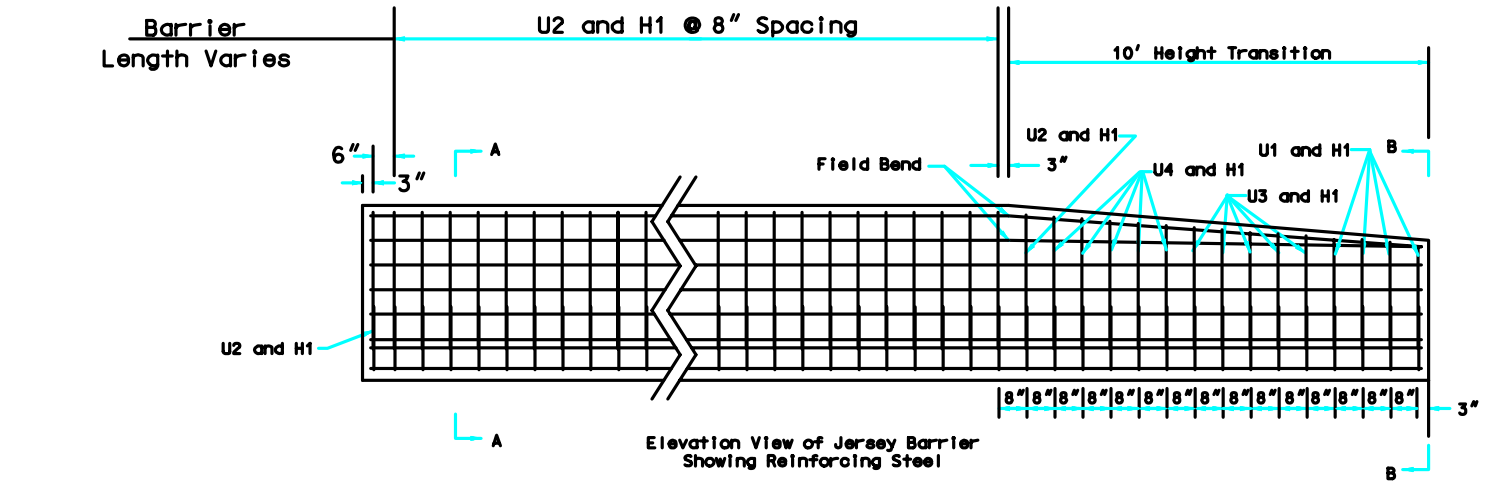
Figure 15 Bent Bar Details−Bar List−Jersey Barrier Details

Figure 16 Barrel Attenuation Device Base Details

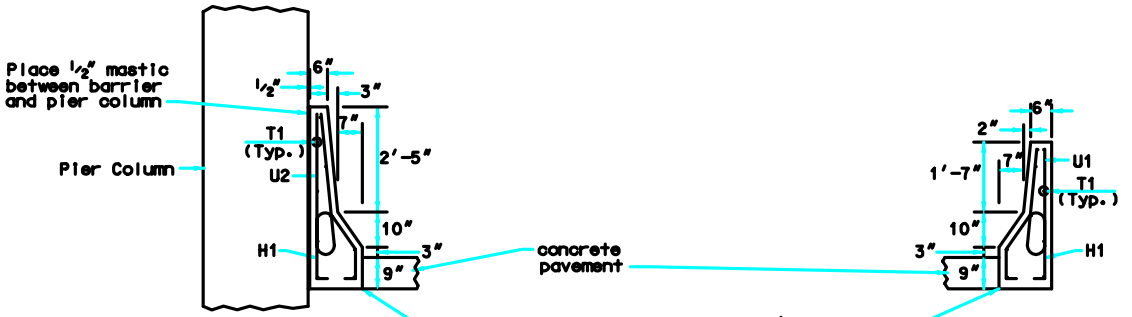
Figure 17 W−Beam Pier Protection End Treatment Details

Figure 18 Culvert length reduction details

Outside Piers
Jersey Barrier Details



Elevation View of Jersey Barrier
Showing Reinforcing Steel



Section A-A
Showing Pier Column

Section B-B

Revised 1-28-03

FIGURE 1

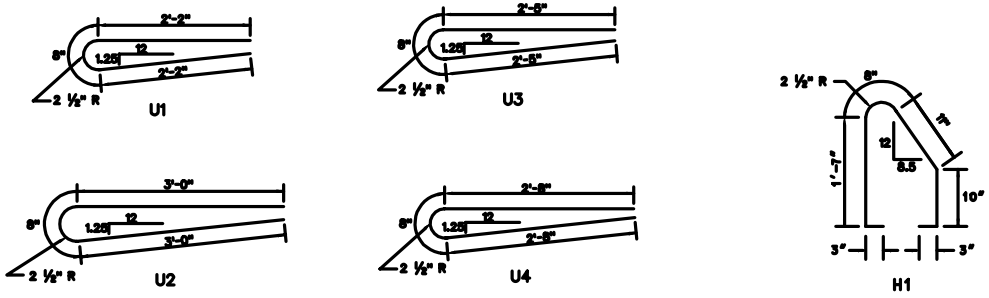
Jersey Barrier Details
Bar Lists and Bent Bar Details
Outside Piers

___ Foot Barrier				
BAR LIST				
MARK	SIZE	NO.	LENGTH	SHAPE
H1	5		4'-6"	BENT
T1	5		27'-8"	STRAIGHT
U1	5		5'-0"	BENT
U2	5		6'-8"	BENT
U3	5		5'-6"	BENT
U4	5		6'-0"	BENT

___ Foot Barrier				
BAR LIST (A)				
MARK	SIZE	NO.	LENGTH	SHAPE
H1	5		4'-6"	BENT
T1	5		35'-8"	STRAIGHT
U1	5		5'-0"	BENT
U2	5		6'-8"	BENT
U3	5		5'-6"	BENT
U4	5		6'-0"	BENT

NOTES:

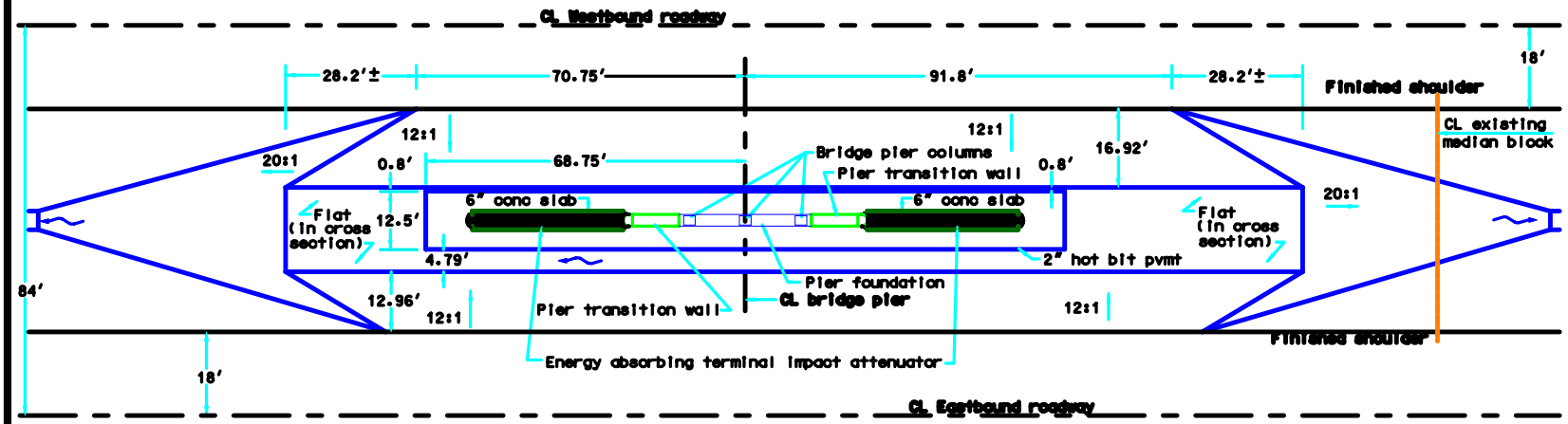
1. Barriers shall be constructed according to the provisions of Section 602.03 B.4 except that there shall be no expansion or deflection joints. Make ¾" V-grooves in all faces of the barriers at approximately 10-foot spacings.
2. Dimensions of bent bars are given out to out. The length of bent bars listed is the sum of the detailing dimensions.
3. Concrete shall be Class AAE-3.
4. Reinforcing steel shall be Grade 60.

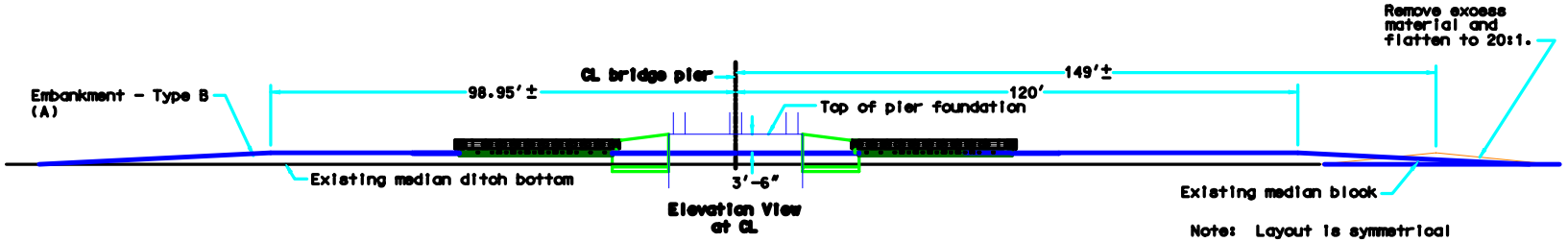


BENT BAR DETAILS

FIGURE 2

Terminal Impact Attenuator Layout





Note: Layout is symmetrical about pier CL, except for grading.

(A) The estimated in-place volume of embankment-type B is ___ cubic yards at this location. This quantity is for informational purposes only. The item "Embankment - Type ___" shall be paid for as 1 each.

Hot bituminous pavement CL ___
____Ton

MC70 or 250 liquid asphalt
____gal

Embankment - type ___
____ea

PG 58-28 asphalt cement
____Ton

Terminal impact attenuator
2 ea

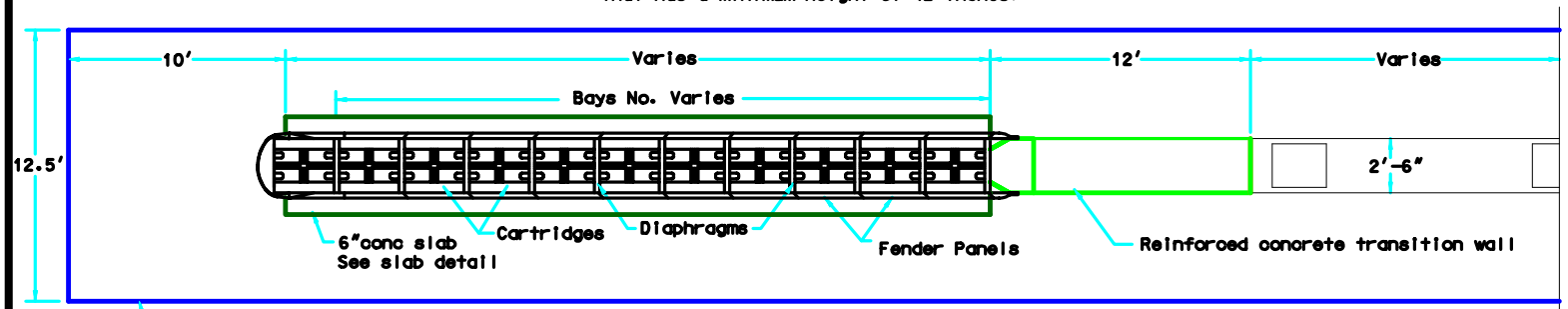
Class AAE-3 concrete
____CY

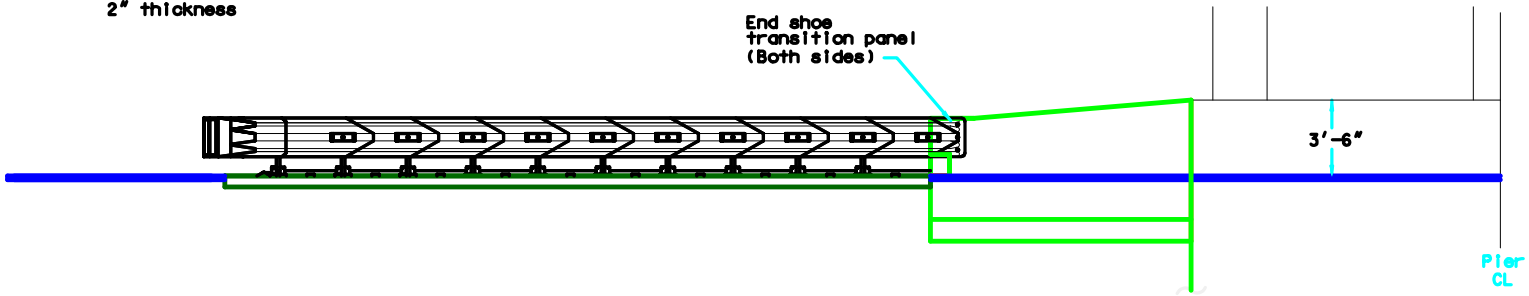
Reinforcing steel - grade 60
____LBS

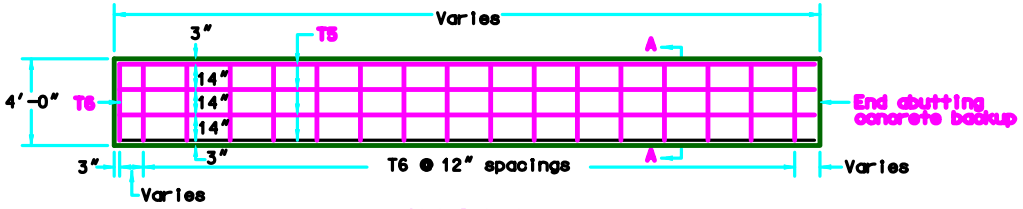
FIGURE 3

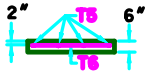
Impact Attenuator Details
Median Pier Protection

The median piers shall be set on a vertical wall that has a minimum height of 42 inches.









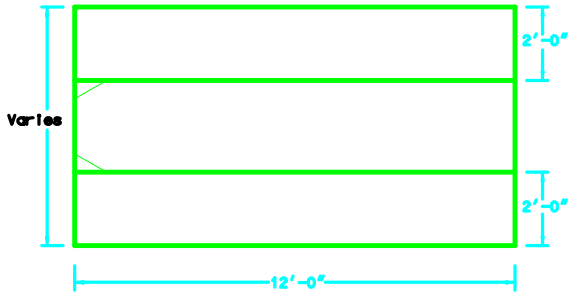
Note: Concrete Slabs shall be Class AAE-3 concrete, and reinforcing steel shall be grade 60.

Bar List - One Slab (A)				
Mark	Size	No.	Length	Shape
T5	5	4	Varies	Straight
T6	5	17	3′-6″	Straight

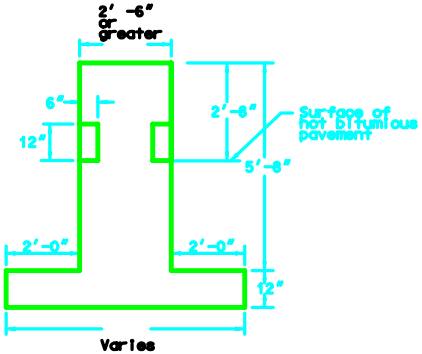
(A) Two slabs are required at this location.

FIGURE 4

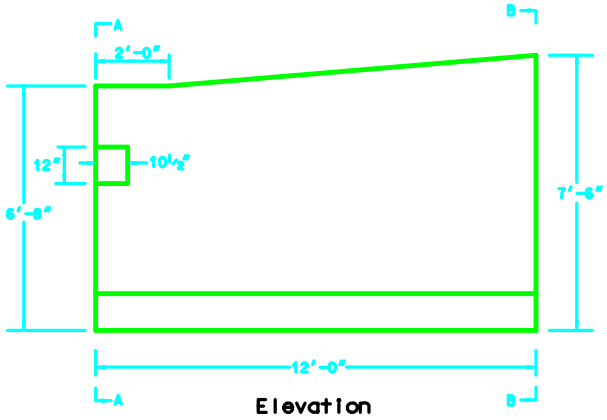
Median Pier Transition Wall Detail



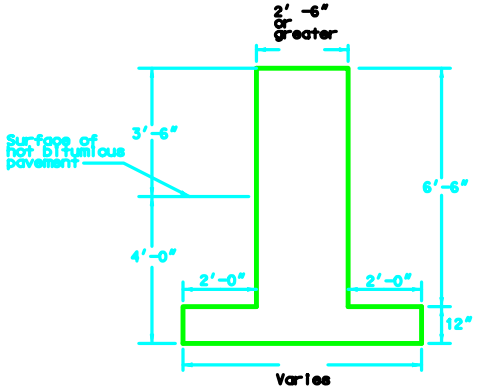
Plan view



Section A-A



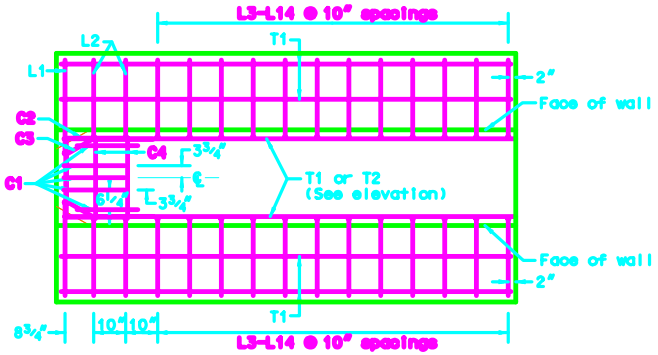
Elevation



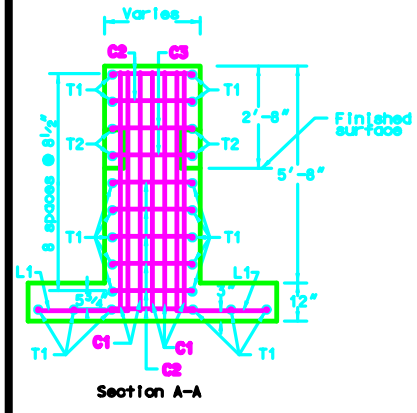
Section B-B

FIGURE 5

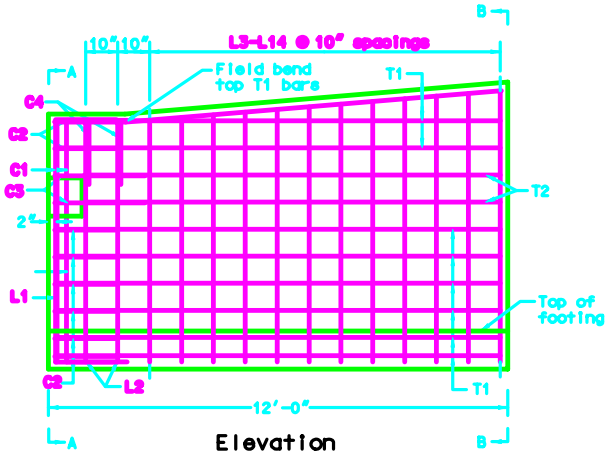
Median pier transition wall
Reinforcing steel layout



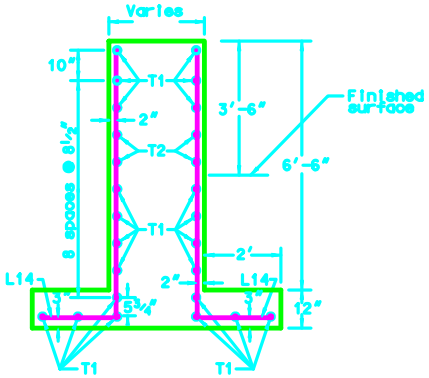
Plan view



Section A-A



Elevation

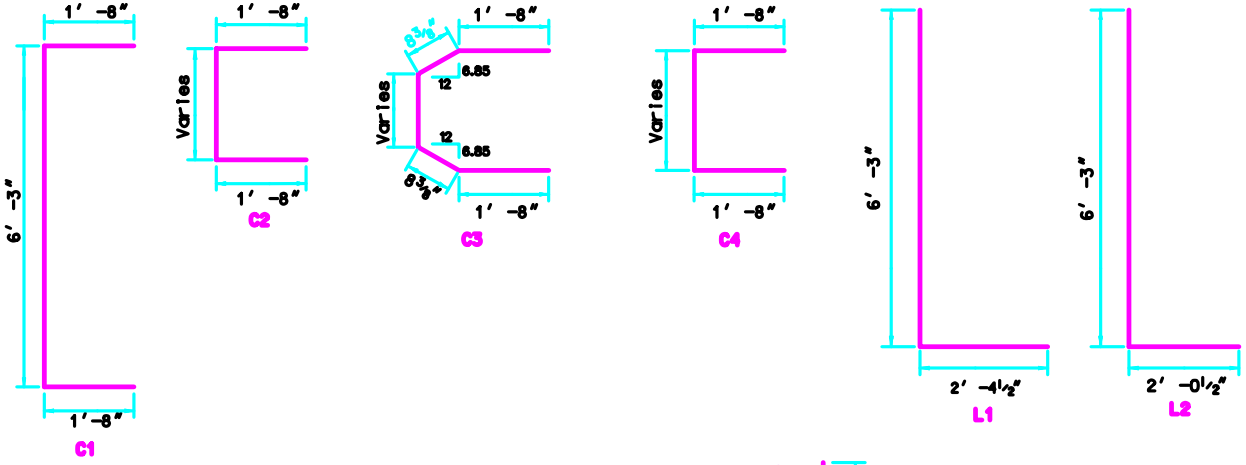


Section B-B

FIGURE 6

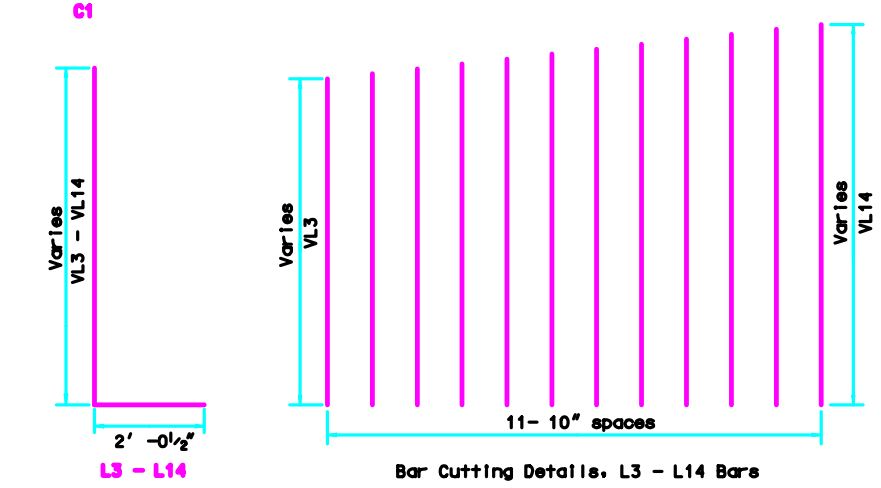
Median pier transition wall

Bent bar details and bar list



BAR LIST, ONE TRANSITION WALL (A)				
MARK	SIZE	NO.	LENGTH	SHAPE
C1	6	5		BENT
C2	5	8		BENT
C3	5	2		BENT
C4	5	2		BENT
L1	5	2		BENT
L2	5	4		BENT
L3-L14	5	1 SET		BENT
T1	4	22		STRAIGHT
T2	4	4		STRAIGHT

(A) The reinforcing steel for one transition wall is shown above. Two transition walls are required.



Length, 1 Set = 103′- 2¼″

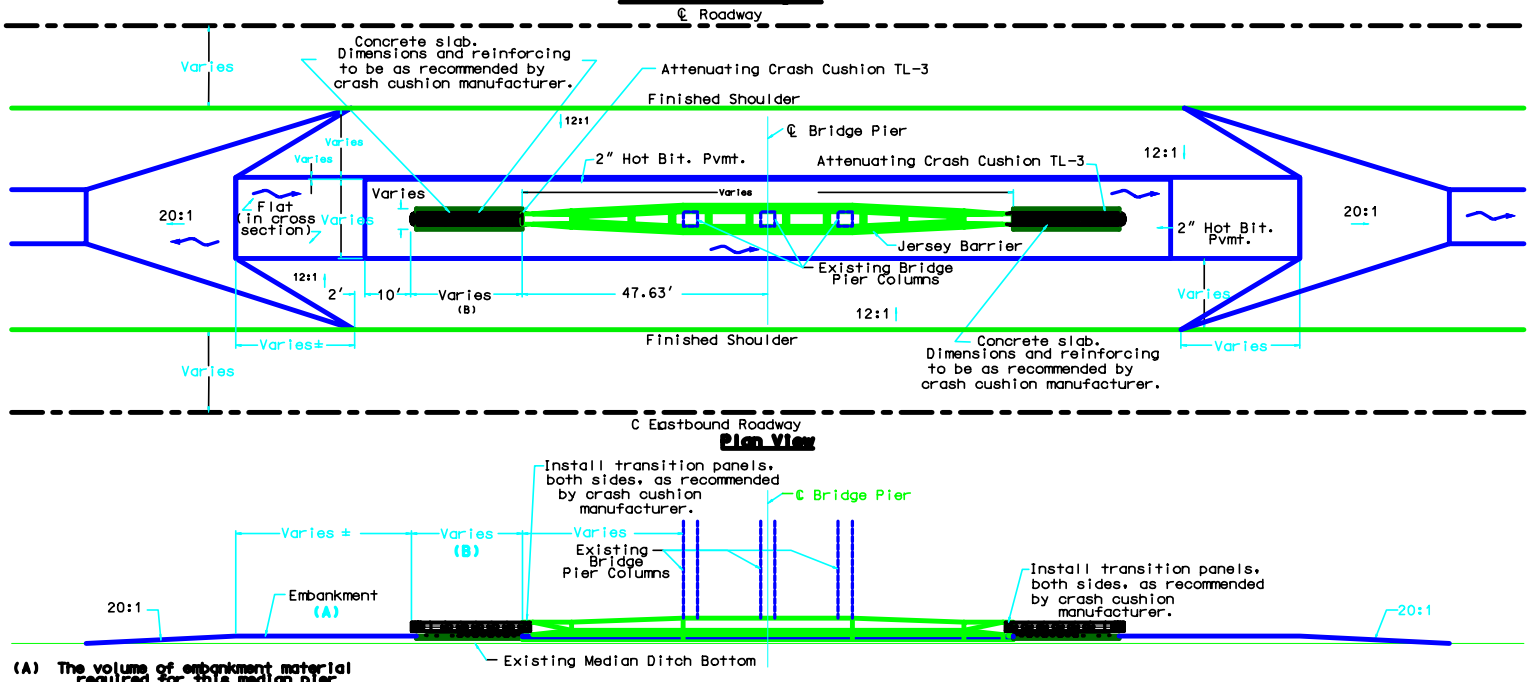
Construction notes:

1. Dimensions of bent bars are given out to out. the length of bent bars listed is the sum of the detailing dimensions.
2. Reinforcing steel shall be grade 60, and concrete shall be Class AAE-3.
3. Longitudinal reinforcing shall be lap spliced 19″.
4. Surface finish "D" shall be required for all exposed surfaces of the wall.

FIGURE 7

BENT BAR DETAILS

Jersey Barrier and Attenuating Crash Cushion Layout



Plan View

Elevation View

(A) The volume of embankment material required for this median pier protection has been included in the quantity for the item "Common excavation - type ".

(B) See approved shop drawings for length of attenuating crash cushion.

—

Hot bituminous pavement CL___
__ Ton

MC70 or 250 liquid asphalt
___ gal

PG 58-28 asphalt cement
___ Ton

Jersey barrier formed or slip formed
__ LF

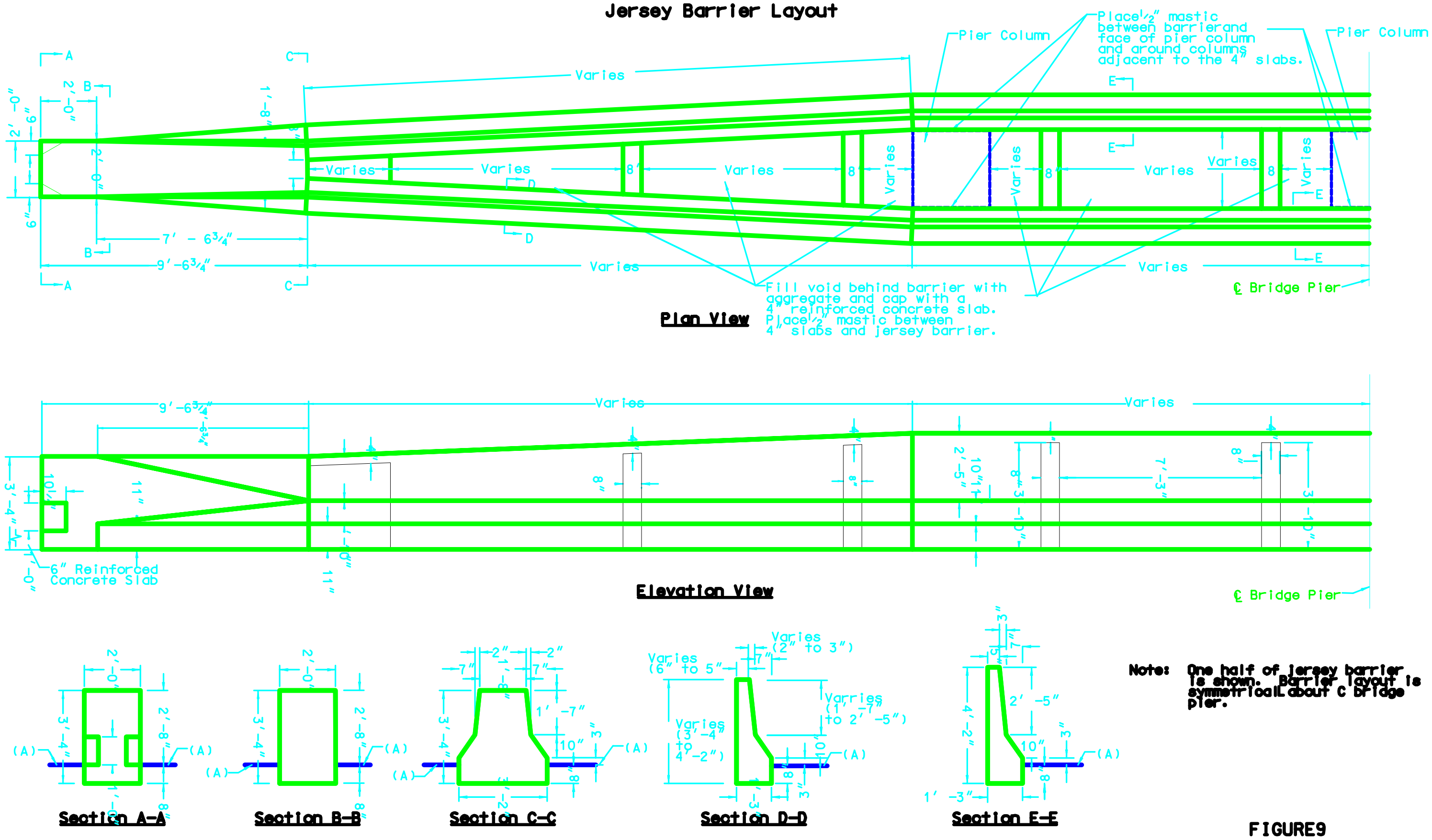
Attenuating Crash Cushion TL-3
2 ea

Remove W-beam guardrail & posts
Sta_____ to_____ rt mdn ___ LF
Sta_____ to_____ lt mdn ___ LF
Total ____ LF

Remove end treatment & transition
Sta_____ to_____ rt mdn ___ LF
Sta_____ to_____ lt mdn ___ LF
Total 2 ea

FIGURE 8

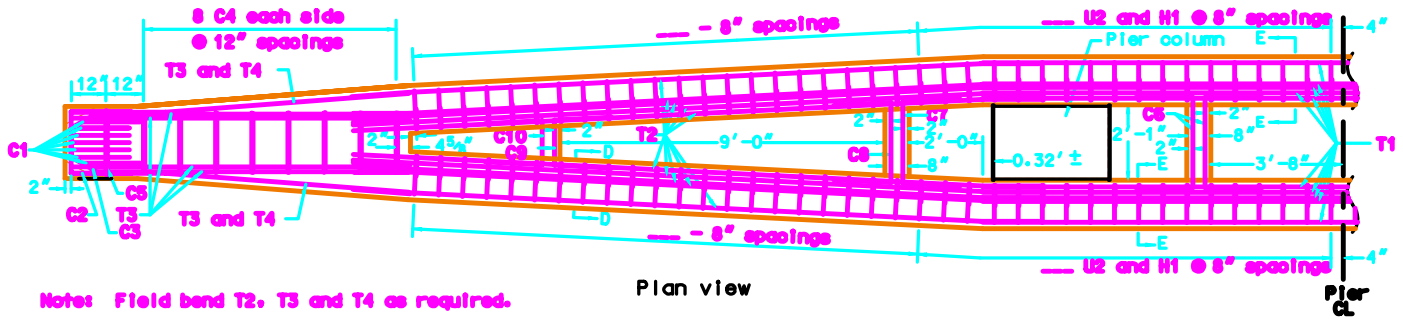
Jersey Barrier Layout



Note: One half of jersey barrier is shown. Barrier layout is symmetrical about C bridge pier.

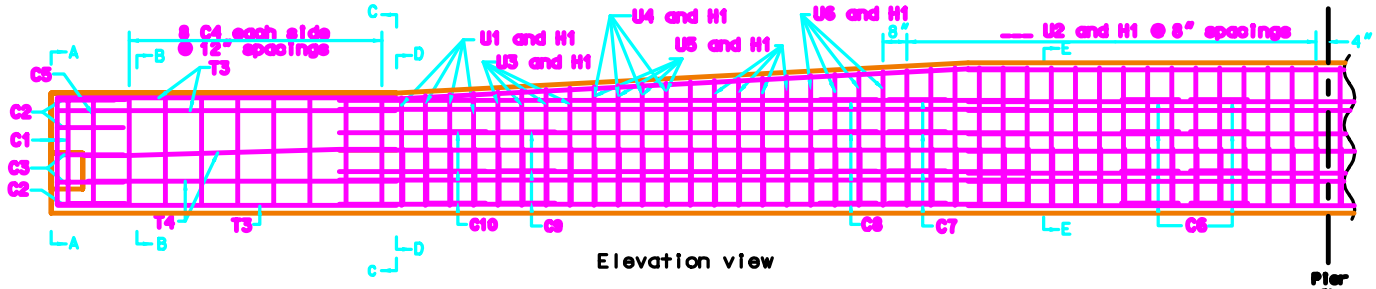
(A) Finished surface of hot bituminous pavement.

FIGURE9

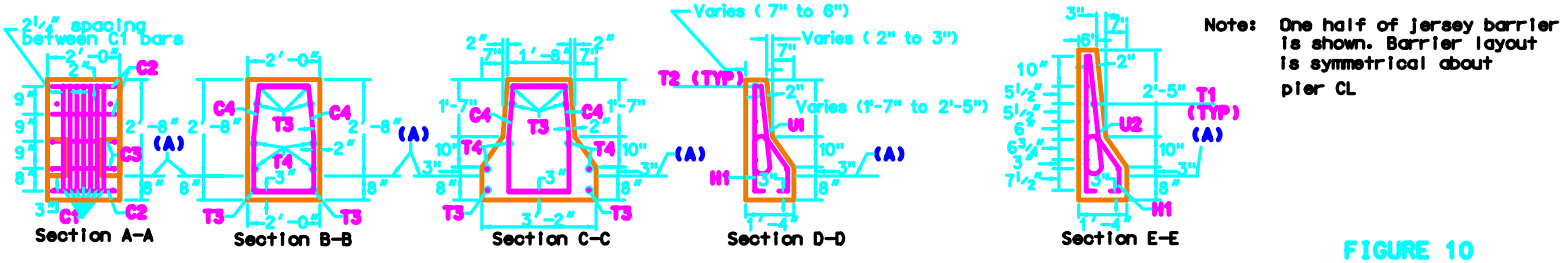


Plan view

Note: Field bend T2, T3 and T4 as required.



Elevation view

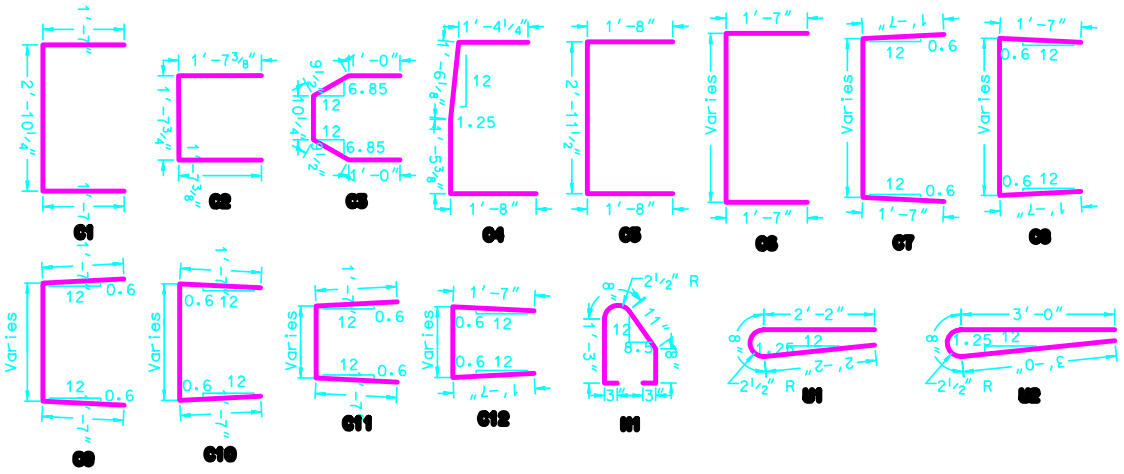


Note: One half of jersey barrier is shown. Barrier layout is symmetrical about pier CL

(A) Finished surface

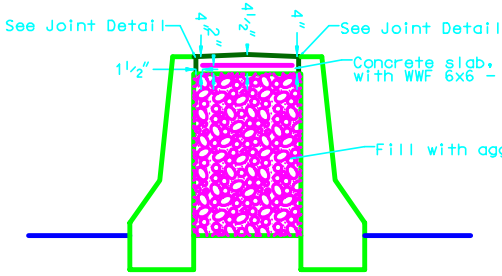
FIGURE 10

Jersey Barrier Details
Bent Bar Details, Bar List

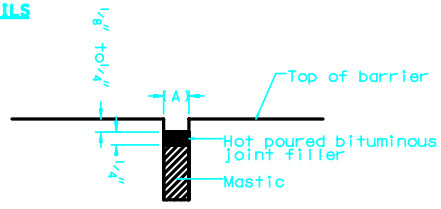


BENT BAR DETAILS

BAR LIST				
MARK	SIZE	NO.	LENGTH	SHAPE
C1	6	14	6'-0¼"	BENT
C2	5	6	4'-10½"	BENT
C3	5	4	4'-5½"	BENT
C4	5	32	5'-11¾"	BENT
C5	5	4	6'-3½"	BENT
C6	5	32		BENT
C7	5	8		BENT
C8	5	8		BENT
C9	5	8		BENT
C10	5	8		BENT
C11	5	6		BENT
C12	5	6		BENT
H1	5	154		BENT
T1	5	18		STRAIGHT
T2	5	36		STRAIGHT
T3	5	12		STRAIGHT
T4	5	8		STRAIGHT
U1	5	16		BENT
U2	5	70		BENT
U3	5	16		BENT
U4	5	16		BENT
U5	5	20		BENT
U6	5	16		BENT



4" Slab and Aggregate Fill Detail



Joint Detail

Construction notes:

1. Barriers shall be constructed according to the provisions of Section 602.03 B.4 except that there shall be no deflection joints. Make ¾" V-grooves in all faces of the barriers at approximately 10-foot spacings.
2. Dimensions of bent bars are given out to out. The length of bent bars listed is the sum of the detailing dimensions.
3. Reinforcing steel shall be grade 60, and concrete shall be Class AAE-3.
4. Longitudinal reinforcing shall be lap spliced 19".
5. Surface finish "D" shall be required for all exposed surfaces of the barrier.

(A) Joint width shall be ½" between barrier and 4" slab, and between barrier and pier columns.

FIGURE 11

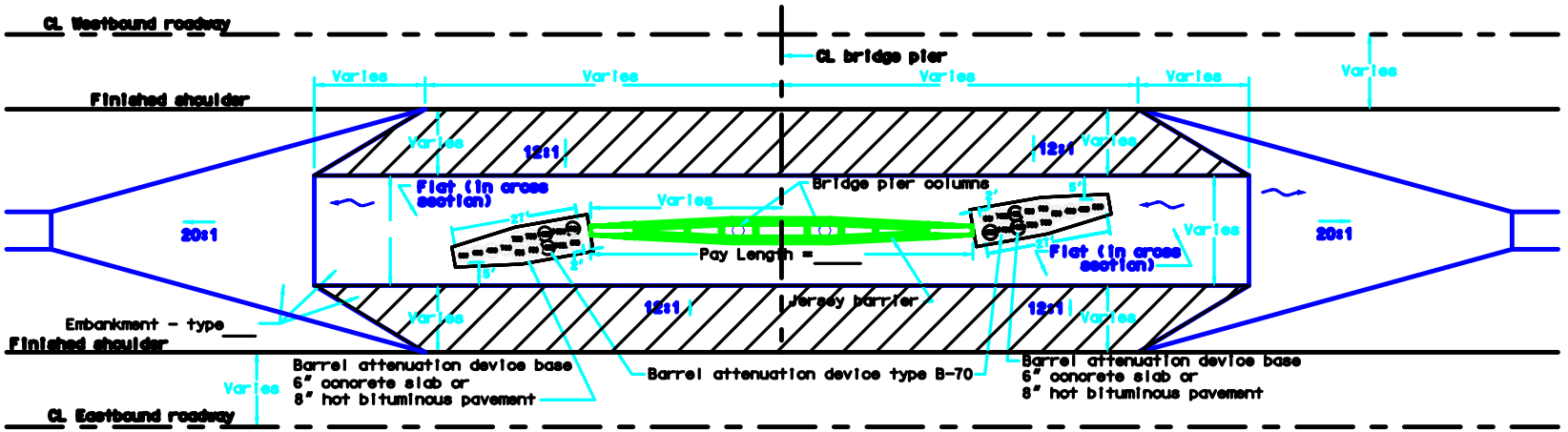
Jersey Barrier and Attenuation Device Layout

Note: The barrel attenuation devices shall be as shown on standard drawing D-704-1, except the reflective sheeting required for the end attenuation drums shall be yellow and black.

The contractor will not be required to provide additional replacement modules for this installation.

The sand used to fill the modules shall have a moisture content of 2 percent or less.

The barrel attenuation device bases shall not be paid for separately, but shall be included in the price bid for the item "Barrel attenuation device type B-70."



Note: Layout is symmetrical about pier CL.

(A) The estimated in-place volume of embankment-type B is 476 cubic yards.

This quantity is for informational purposes only. The item "Embankment - Type___" shall be paid for as 1 each.

Jersey barrier formed or slip formed
___LF

Barrel attenuation device type B-70
2 ea

Embankment - type ___
1 ea

FIGURE 12

Jersey barrier details
Median pier protection

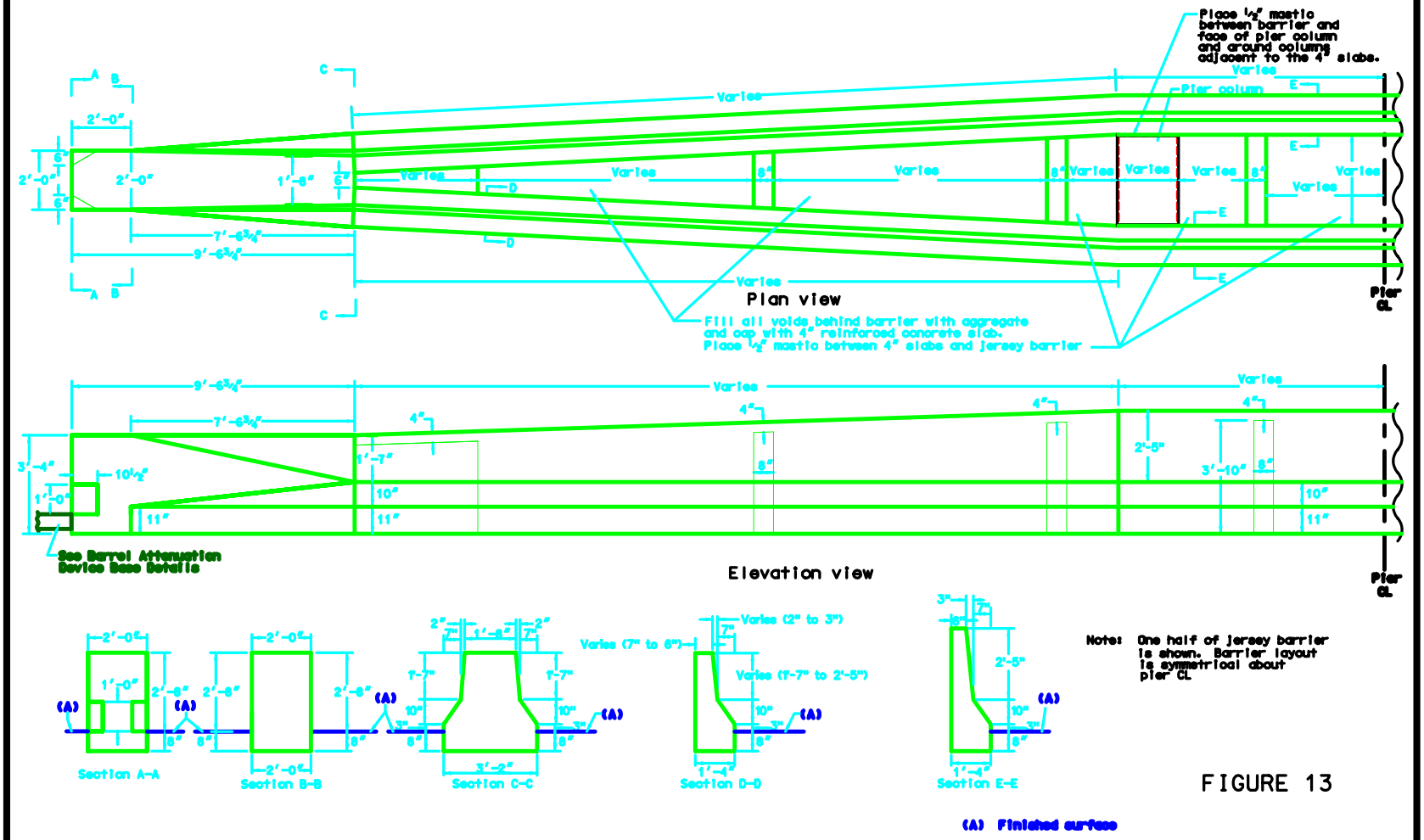
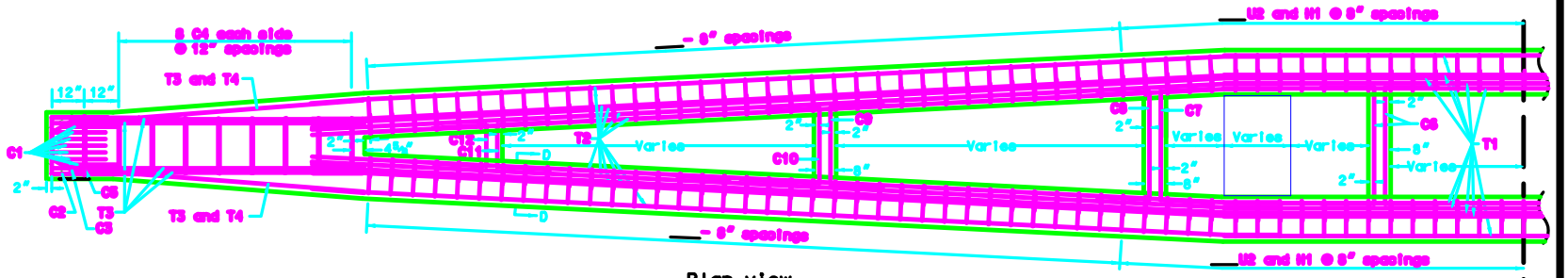


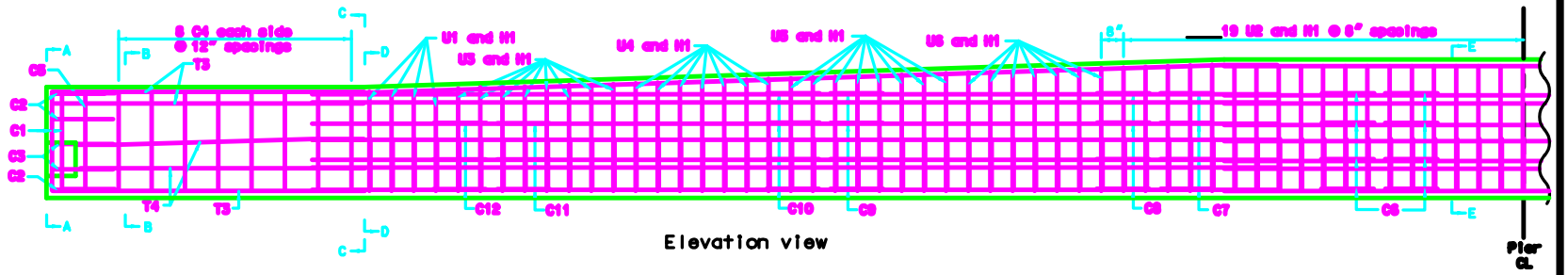
FIGURE 13

Jersey barrier details
Reinforcing steel layout

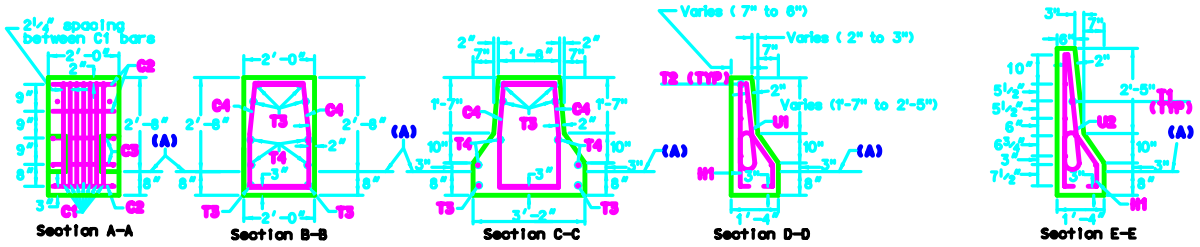


Plan view

Notes: Field bend T2, T3 and T4 as required.



Elevation view

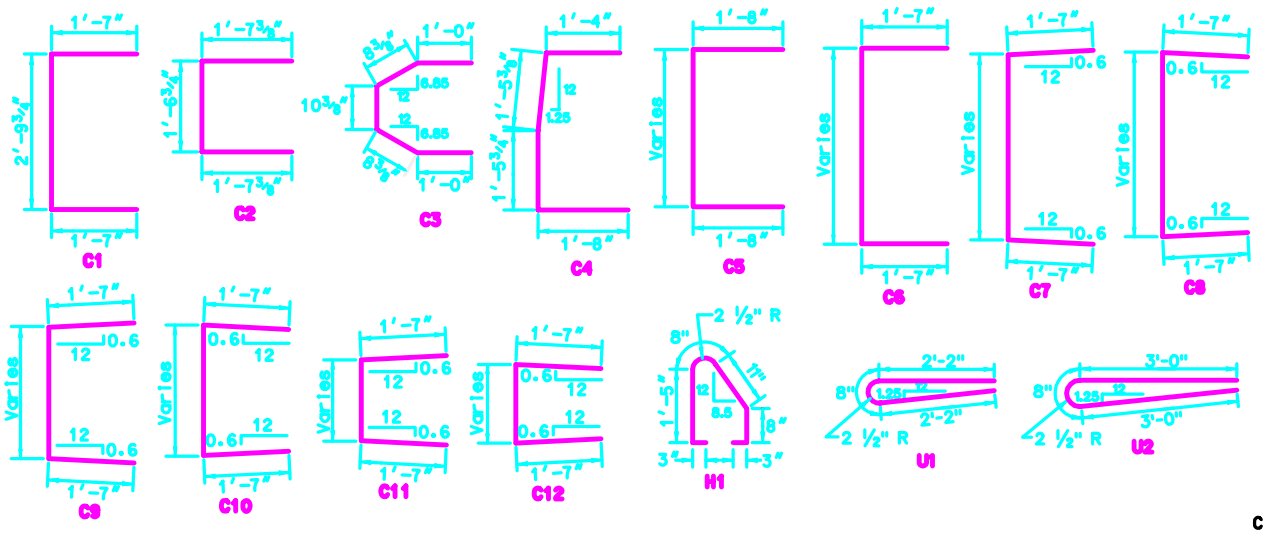


Notes: One half of jersey barrier is shown. Barrier layout is symmetrical about pier CL

FIGURE 14

(A) Finished surface

Bent bar details, bar list, Jersey barrier details

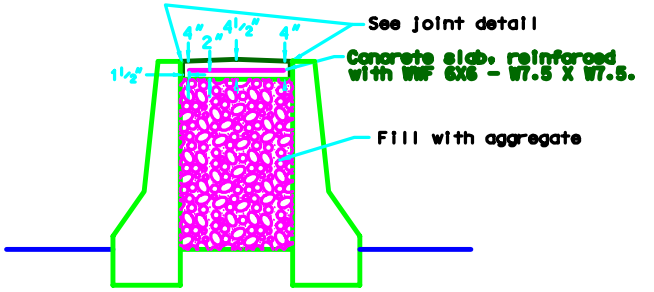


BENT BAR DETAILS

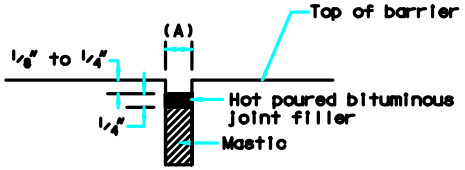
BAR LIST				
MARK	SIZE	NO.	LENGTH	SHAPE
C1	6	14	5'-11¾"	BENT
C2	5	6	4'-9¼"	BENT
C3	5	4	4'-3⅛"	BENT
C4	5	32	5'-11⅛"	BENT
C5	5	4		BENT
C6	5	16		BENT
C7	5	8		BENT
C8	5	8		BENT
C9	5	8		BENT
C10	5	8		BENT
C11	5	6		BENT
C12	5	6		BENT
H1	5	210	4'-2"	BENT
T1	5	18		STRAIGHT
T2	5	36		STRAIGHT
T3	5	12		STRAIGHT
T4	5	8		STRAIGHT
U1	5	16	5'-0"	BENT
U2	5	74	6'-8"	BENT
U3	5	32	5'-5"	BENT
U4	5	28	5'-6½"	BENT
U5	5	32	6'-1"	BENT
U6	5	28	6'-5"	BENT

Construction notes:

1. Barriers shall be constructed according to the provisions of Section 602.03 B.4 except that there shall be no deflection joints. Make ¾" V-grooves in all faces of the barriers at approximately 10-foot spacings.
2. Dimensions of bent bars are given out to out. the length of bent bars listed is the sum of the detailing dimensions.
3. Reinforcing steel shall be grade 60, and concrete shall be Class AAE-3.
4. Longitudinal reinforcing shall be lap spliced 19".
5. Surface finish "D" shall be required for all exposed surfaces of the barrier.



4" Slab and Aggregate Fill Detail



Joint Detail

(A) Joint width shall be ½" between barrier and 4" slab, and between barrier and pier columns.

FIGURE 15

Barrel Attenuation Device Base Details

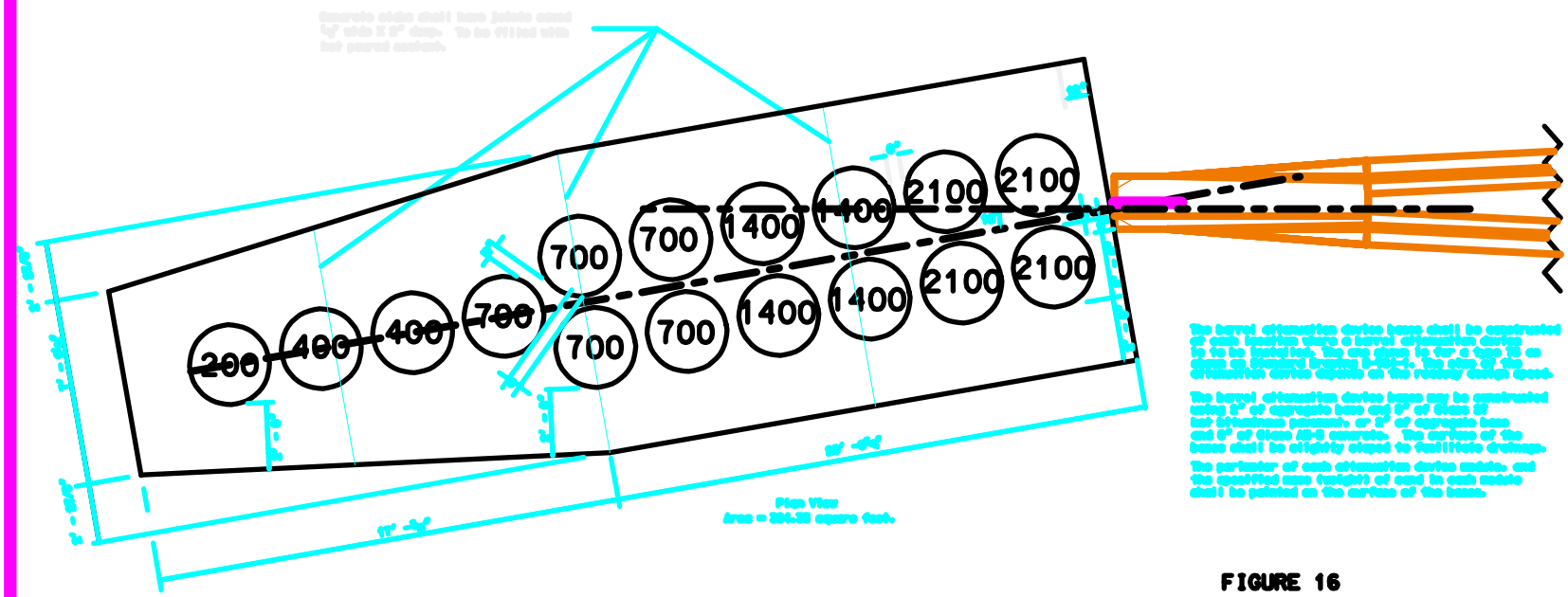


FIGURE 16

W-Beam Pier Protection
End Treatment Details

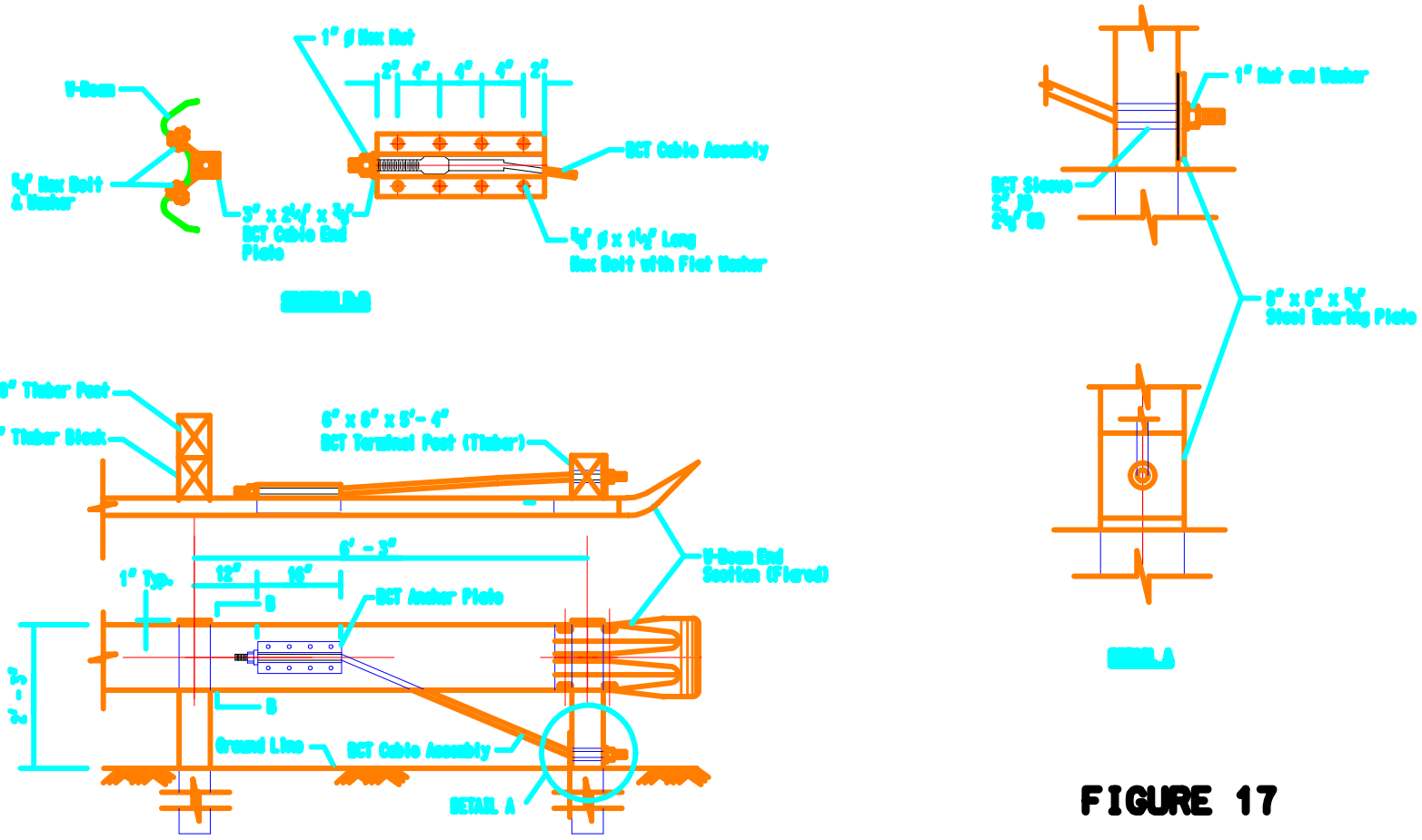


FIGURE 17

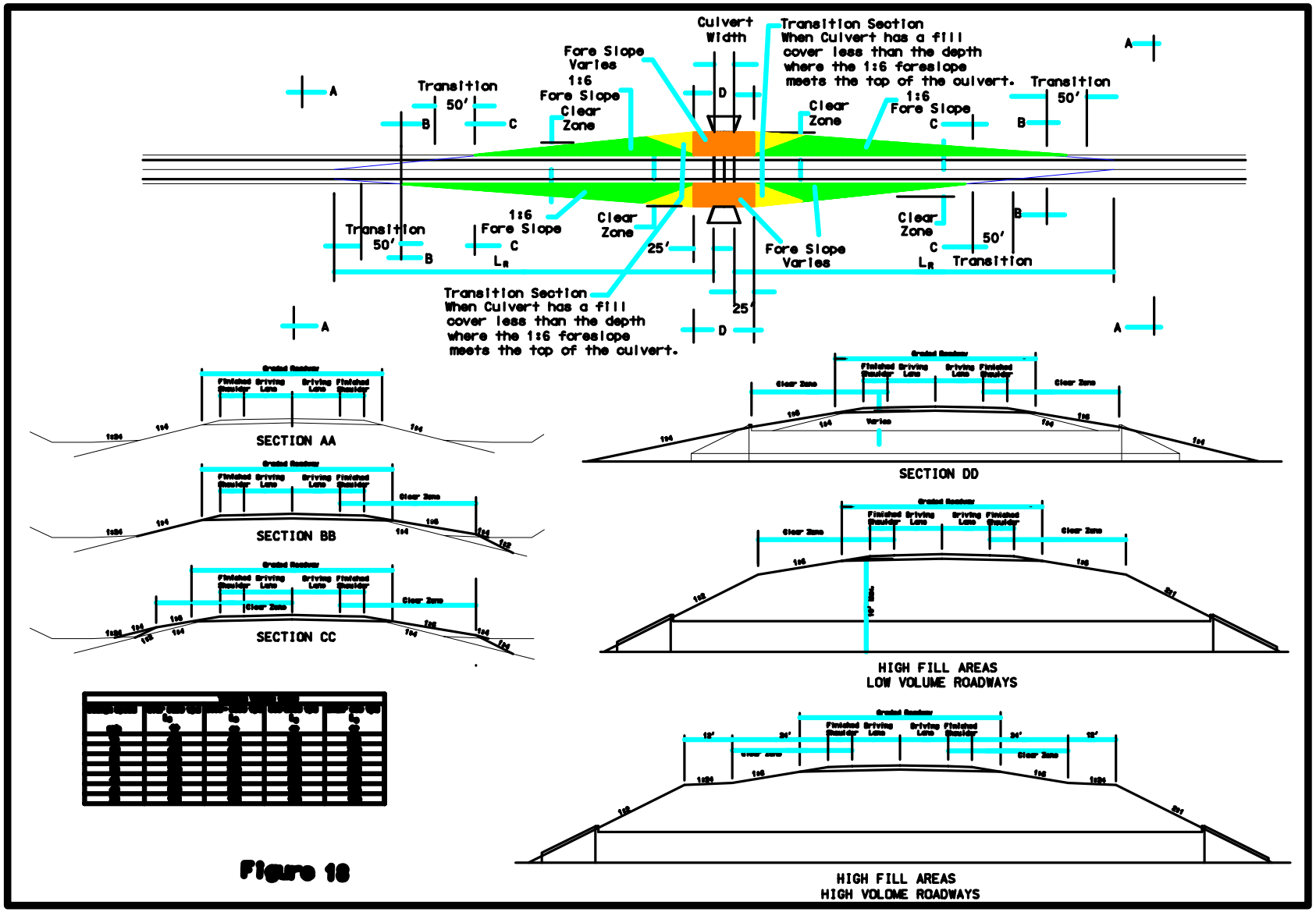

Culvert Width
Transition Section When Culvert has a fill cover less than the depth where the 1:6 foreslope meets the top of the culvert.
Fore Slope Varies 1:6
Fore Slope
Clear Zone
Transition 50'
A
B
C
D
25'
L_R
Transition Section When Culvert has a fill cover less than the depth where the 1:6 foreslope meets the top of the culvert.
SECTION AA
SECTION BB
SECTION CC
SECTION DD
HIGH FILL AREAS
LOW VOLUME ROADWAYS
HIGH FILL AREAS
HIGH VOLOME ROADWAYS

Figure 18